Bacterial and Fungal Contamination of Cockroaches at Two Seasons in Public Habitants of Mashhad, Iran

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Background & Objectives: Cockroaches play an important role in the distribution and transports of pathogenic microorganisms in the public and private.

Methods: German cockroaches were sampled in three habitats (hospital, student dormitories and dwelling houses) and two seasons (autumn and spring) in Mashhad, and the bacteria and fungi were isolated from their alimentary. After dissection of digestive system under sterile conditions, the extractions were incubated in EMB, Blood Agar and Saburo Dextrose Agar media.

Results: A total, 19 Bacteria species and 4 fungi species were isolated from the German cockroaches' alimentary tract. Bacterial density per cockroach did not differ by season, but differ among habitats and their interaction. Fungi in any habitants, times and their interaction were not significant. In autumn and spring, no significant difference was found between the bacteria and fungi isolated from the digestive tract of cockroaches caught in different parts of the hospital and dwellings of the city. Altogether, in autumn 15, 10 and 7 types of bacteria isolated, 3 type of fungi isolated, in spearing 13, 10 and 12 types of bacteria isolated, 4 type of fungi isolated were detected of the digestive tract of cockroaches collected from hospital, student dormitories and dwellings, respectively.

Conclusion: The microorganisms' diversity was not significantly reduced in sensitive facilities such as hospital and dwelling, even though pesticide and bactericide were more frequently applied there. The implications of these findings were discussed in this article.

Keywords: Bacteria; Fungi; German Cockroach; Habitant; Mashhad